

What is claimed is:

1. A circuit for arbitrating current from a single power source to a plurality of loads, the circuit comprising:
 - a. a means of sensing a voltage of the single power source;
 - 5 b. a means of regulating current to at least a second load;
 - c. a means of decoupling the single power source from the plurality of loads; and
 - d. a control means coupled to the means for sensing voltage and the means for regulating current;

wherein when the means for decoupling is actuated, the control means defines an

10 open-circuit power supply voltage.
2. The circuit of claim 1, wherein the control means defines a threshold voltage, wherein the threshold voltage is equal to or less than the open-circuit power supply voltage.
3. The circuit of claim 2, wherein the control means causes the means of regulating current the to supply as much current as possible to the at least a second load while maintaining
- 15 a voltage from the single power source that is greater than or equal to the threshold voltage.
4. A circuit for delegating current to a plurality of loads, the circuit comprising:
 - a. a means for coupling to a power source;
 - b. a means for coupling to the plurality of loads, the plurality of loads comprising at
 - 20 least a first load and at least a second load;
 - c. a switch means coupled serially between the means for coupling to a power source and the means for coupling to a plurality of loads;
 - d. a means for regulating current coupled serially between the mans for coupling to a power source and the at least a second load;
 - 25 e. a means for sensing a voltage of the power source; and

- f. a control means coupled to both the switch means and the means for regulating current.
5. The circuit of claim 4, wherein when the switch means is open, the control means records the voltage of the power source by way of the means for sensing a voltage of the power source.
6. The circuit of claim 5, wherein the control means defines a threshold voltage upon sensing the voltage of the power supply.
7. The circuit of claim 6, wherein the threshold voltage is less than or equal to the sensed voltage of the power supply.
8. The circuit of claim 7, wherein the threshold voltage is between 10 and 1000 millivolts below the recorded voltage of the power source.
9. The circuit of claim 6, wherein the control means actuates the means for regulating current and reduces the current flowing to the at least a second load when the voltage of the power source falls below the threshold voltage.
10. The circuit of claim 9, wherein the control means increases the current flowing to the at least a second load when the voltage of the power source is above the threshold voltage.
11. The circuit of claim 10, wherein the at least a second load comprises a rechargeable battery.
12. A method of delegating current to a plurality of loads, the method comprising the steps of:
- a. decoupling a power source from the plurality of loads;
 - b. sensing an open-circuit power source voltage;
 - c. coupling the power source to the plurality of loads;
 - d. establishing a threshold voltage;

- e. actuating a current regulator to provide current to at least a second of the plurality of loads;
- f. reducing the current to the at least a second of the plurality of loads whenever an output voltage of the power source falls below the threshold voltage.

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13. The method of claim 12, further comprising the step of increasing the current to the at least a second load when the output voltage of the power source is above the threshold voltage.

14. The method of claim 13, wherein the at least a second load comprises a rechargeable battery.

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